## **AUTHOR INDEX**

Allalunis-Turner, M. J., Pearcy, R. G., Barron, G. M., Buryn, D. A., Babiak, J. C. and Honoré, L.H., Inherent radiosensitivity testing of tumor biopsies obtained from patients with carcinoma of the cervix or endometrium, 201

Aristei, C., see Latini, P., 127

Aversa, F., see Latini, P., 127

Babiak, J. C., see Allalunis-Turner, M. J., 201

Bachaud, J. M., Chuan Fu, R., Delannes, M., Izar, F., Martel, P., David, J. M., Shubinski, R. E., Daly, N. J. and Montana, G. S., Non-randomized comparative study of irradiation alone or in combination with surgery in stage Ib, IIa and "proximal" IIb carcinoma of the cervix, 104

Barrett, A., see Costello, S. A., 56

Barron, G. M., see Allalunis-Turner, M. J., 201

Bartelink, H., see Letschert, J. G. J., 36

Bentzen, S. M. and Thames, H. D., Clinical evidence for tumor clonogen regeneration: interpretations of the data, 161

Bessell, E. M., MacLennan, K. A., Toghill, P. J., Ellis, I. O., Fletcher, J. and Dowling, F. D., Suprahyoid Hodgkin's disease stage IA, 190

Borger, J. H., The impact of surgical and pathological findings on radiotherapy of early breast cancer, 230

Boukes, R., see Letschert, J. G. J., 36

Brada, M., see Graham, J. D., 29

Bras, J., see Letschert, J. G. J., 36

Buryn, D. A., see Allalunis-Turner, M. J., 201

Calais, G. and Hirst, D. G., In situ tumour radiosensitization induced by clofibrate administration: single dose and fractionated studies, 99

Calitchi, E., see Marinello, G., 266

Campana, F., see Fourquet, A., 261

Canesi, P., see Ciocca, M., 304

Cassoni, A., see Robinson, M., 118

Catton, C. N., see Shun Wong, C., 145

Chavaudra, J., see Grimaud, E., 237

Checcaglini, F., see Latini, P., 127

Chuan Fu, R., see Bachaud, J. M., 104

Ciocca, M., Landoni, L., Italia, C., Montanaro, P., Canesi, P. and Valdagni, R., Quality control in the conservative treatment of breast cancer: patient dosimetry using silicon detectors, 304

Collier, J. M., see Kjellen, E., 81

Conill, C., see Sarri, Y., 143

Cosset, J.-M., see Scalliet, P., 180

Costello, S. A., Jones, R. D. and Barrett, A., The effect of scheduling in children undergoing prophylactic cranial irradiation for acute lymphoblastic leukaemia, 56

Crabeels, D., see Van Tienhoven, G., 317

Cummings, B. J., see Shun Wong, C., 145

Daly, N. J., see Bachaud, J. M., 104

David, J. M., see Bachaud, J. M., 104

De Brouwer, P., see Hamers, H. P., 280

De Mooy, L. G., The use of carbon fibres in radiotherapy (Technical Note), 140

Delannes, M., see Bachaud, J. M., 104

Dische, S., see Leslie, M. D., 133

Dorr, W., see Maciejewski, B., 7

Dowling, F. D., see Bessell, E. M., 190

Down, J. D., see Lockhart, S. P., 68

Dutreix, A., see Leunens, G., 285 Dutreix, A., see Mitine, C., 308

Ellis, I. O., see Bessell, E. M., 190

Fentiman, I. S., Quality control in breast cancer treatment: what information can the surgeon provide?, 226

Fischer, J. J., see Rockwell, S., 92

Fisher, C., see Robinson, M., 118

Fletcher, J., see Bessell, E. M., 190

Fourquet, A., Campana, F., Rosenwald, J.-C. and Volcoq, J. R., Breast irradiation in the lateral decubitus position: technique of the Institut Curie, 261

Fowler, J. F., Rapid Repopulation in Radiotherapy: A Debate on Mechanism. The phantom of tumor treatment continually rapid proliferation unmasked, 156

Fraass, B. A., see Ten Haken, R. K., 19

Garavaglia, G., Porepp, C. and Josefowsky, M., Improved dose distribution homogeneity in conservative breast cancer irradiation, 245

Gildersleve, J., see Westbrook, C., 299

Glanzmann, Ch., Schultz, G. and Lütolf, U. M., Long-term morbidity of adjuvant infradiaphragmatic irradiation in patients with testicular cancer and implications for the treatment of stage I seminoma, 12

Gomis, R., see Saari, Y., 143

González González, D., see Letschert, J. G. J., 36

Graham, J. D., Nahum, A. E. and Brada, M., A comparison of techniques for stereotactic radiotherapy by linear accelerator based on 3-dimensional dose distributions, 29

Grimaud, E. and Chavaudra, J., Breast cancer treatment: which inhomogeneities have to be taken into account?, 237

Hamers, H. P., Johansson, K. A., Venselaar, J. L. M., De Brouwer, P., Hansson, U. and Moudi, C., Entrance and exit TL-dosimetry in the conservative treatment of breast cancer: a pilot study for the EORTC-Radiotherapy Cooperative Group, 280

Hansson, U., see Hamers, H. P., 280

Harmer, C., see Robinson, M., 118

Haveman, J., see Sminia, P., 60

Heeren, G., see Leer, J. W. H., 153

Heukelom, S., see Van Tienhoven, G., 317

Heukelom, S., Lanson, J. H., Van Tienhoven, G. and Mijnheer, B. J., In vivo dosimetry during tangential breast treatment, 269

Heukelom, S., see Mijnheer, B. J., 239

Hill, D., see Lockhart, S. P., 68

Hirst, D. G., see Calais, G., 99

Holsti, L. R., see Kajanti, M., 174

Holsti, P., see Kajanti, M., 174

Honoré, L. H., see Allalunis-Turner, M. J., 201

Horiot, J.-C., Rationale for a quality assurance programme in clinical trials of conservative management of breast carcinoma, 222

Horsman, M. R., Nicotinamide and the hypoxia problem (Editorial), 79

Hughes, C. S., see Rockwell, S., 92

Huizenga, H., see Van Bree, N. A. M., 252

Irvin, C. G., see Rockwell, S., 92

Italia, C., see Ciocca, M., 304

Italia, C., see Valdagni, R., 311

Izar, F., see Bachaud, J. M., 104

Jahnson, S., Pedersen, J. and Westman, G., Bladder carcinoma – a 20-year review of radical irradiation therapy, 111

Janjan, N. A., Wilson, J. F. and Zellmer, D. L., Is the dose-response relationship for local control of Hodgkin's disease obscured by lung inhomogeneity corrections?, 195

Johansson, K. A., see Hamers, H. P., 280

Johns, H., see Kjellen, E., 81

Joiner, M. C., see Kjellen, E., 81

Jones, R. D., see Costello, S. A., 56

Josefowsky, M., see Garavaglia, G., 245

Kajanti, M., Holsti, L. R. and Holsti, P., Radical surgery and postoperative split-course radiotherapy in squamous cell carcinoma of the mobile tongue: factors influencing local control and the time to recurrence, 174

Kaye, S. B., see Senan, S., 209

Keane, T. J., see Shun Wong, C., 145

Kelley, M., see Rockwell, S., 92

Keus, R. B., see Lebesque, J. V., 45

King, S., see Lockhart, S. P., 68

Kirby, M. C. and Williams, P. C., Portal imaging for the verification of breast treatments, 314

Kjellen, E., Joiner, M. C., Collier, J. M., Johns, H. and Rojas, A., A therapeutic benefit from combining normobaric carbogen or oxygen with nicotinamide in fractionated X-ray treatments, 81

Koedooder, C., see Sminia, P., 60

Koornneef, L., see Letschert, J. G. J., 36

Kummermehr, J., see Maciejewski, B., 7

Kummermehr, J., see Trott, K. R., 159

Landoni, L., see Ciocca, M., 304

Lanson, J. H., see Heukelom, S., 269

Lanson, J. H., see Mijnheer, B. J., 239

Lanson, J. H., see Van Tienhoven, G., 317

Latini, P., Aristei, C., Aversa, F., Checcaglini, F., Maranzano, E.,
Raymondi, C., Moira Panizza, B., Perrucci, E. and Martelli,
M. F., Lung damage following bone marrow transplantation
after hyperfractionated total body irradiation, 127

Lavey, R. S., see Taylor, J. M. G., 167

Lawrence, T. S., see Ten Haken, R. K., 19

Lawton, P. A. and Maher, E. J., Treatment strategies for advanced and metastatic cancer in Europe, 1

Le Bourgeois, J. P., see Marinello, G., 266

Lebesque, J. V. and Keus, R. B., The simultaneous boost technique: the concept of relative normalized total dose, 45

Leer, J. W. H., Overgaard, J. and Heeren, G., The European core curriculum on radiotherapy, 153

Leslie, M. D. and Dische, S., Parotid gland function following accelerated and conventionally fractionated radiotherapy, 133

Letschert, J. G. J., González González, D., Oskam, J., Koornneef, L., van Dijk, J. D. P., Boukes, R., Bras, J., van Heerde, P. and

Bartelink, H., Results of radiotherapy in patients with stage I orbital non-Hodgkin's lymphoma, 36

Leunens, G., Verstraete, J., Van Dam, J., Dutreix, A. and van der Schueren, E., In vivo dosimetry for tangential breast irradiation: role of the equipment in the accuracy of dose delivery, 285

Lichter, A. S., see Ten Haken, R. K., 19

Lockhart, S. P., Hill, D., King, S. and Down, J. D., A semi-automated method for breathing rate measurement in the mouse (Short Communication), 68

Lütolf, U. M., see Glanzmann, Ch., 12

Maciejewski, B., Zajusz, A., Pilecki, B., Swiatnicka, J., Skladowski, K., Dorr, W., Kummermehr, J. and Trott, K. R., Acute mucositis in the stimulated oral mucosa of patients during radiotherapy for head and neck cancer, 7

MacLennan, K. A., see Bessell, E. M., 190

Maher, E. J., see Lawton, P. A., 1

Maranzano, E., see Latini, P., 127

Marinello, G., Calitchi, E., Le Bourgeois, J. P. and Pierquin, B., Improvement of the method used at Creteil for early breast cancer: 1970–1990, 266

Martel, P., see Bachaud, J. M., 104

Martelli, M. F., see Latini, P., 127

Mayles, W. P. M., Yarnold, J. R. and Webb, S., Improved dose homogeneity in the breast using tissue compensators, 248

McShan, D. L., see Ten Haken, R. K., 19

Mendenhall, W. M., see Taylor, J. M. G., 167

Mijnheer, B. J., Heukelom, S., Lanson, J. H., van Battum, L. J., Van Bree, N. A. M. and Van Tienhoven, G., Should inhomogeneity corrections be applied during treatment planning of tangential breast irradiation?, 239

Mijnheer, B. J., see Heukelom, S., 269

Mijnheer, B. J., see Van Bree, N. A. M., 252

Mijnheer, B. J., see Van Tienhoven, G., 290

Mijnheer, B. J., see Van Tienhoven, G., 317

Mitine, C., Dutreix, A. and Van der Schueren, E., Tangential breast irradiation: influence of technique of set-up on transfer errors and reproducibility, 308

Moira Panizza, B., see Latini, P., 127

Montana, G. S., see Bachaud, J. M., 104

Montanaro, P., see Ciocca, M., 304

Moudi, C. see Hamers, H. P., 280

Nahum, A. E., see Graham, J. D., 29

Oskam, J., see Letschert, J. G. J., 36

O'Sullivan, B., see Shun Wong, C., 145

Overgaard, J., see Leer, J. W. H., 153

Pearcy, R. G., see Allalunis-Turner, M. J., 201

Pedersen, J., see Jahnson, S., 111

Perrucci, E., see Latini, P., 127

Pierquin, B., see Marinello, G., 266

Pilecki, B., see Maciejewski, B., 7

Porepp, C., see Garavaglia, G., 245

Porter, E., see Rockwell, S., 92

Rampling, R., see Senan, S., 209

Raymondi, C., see Latini, P., 127

Robinson, M., Cassoni, A., Harmer, C., Fisher, C., Thomas, J. and Westbury, G., High dose hyperfractionated radiotherapy in the treatment of extremity soft tissue sarcomas, 118

Rockwell, S., Kelley, M., Irvin, C. G., Hughes, C. S., Porter, E.,

Yabuki, H. and Fischer, J. J., Modulation of tumor oxygenation and radiosensitivity by a perfluorooctylbromide emulsion, 92

Rojas, A., see Kjellen, E., 81

Rosenwald, J.-C., see Fourquet, A., 261

Sarri, Y., Conill, C., Verger, E., Tomas, C. and Gomis, R., Effects of single dose irradiation on pancreatic beta-cell function (Short Communication), 143

Scalliet, P., Cosset, J.-M. and Wambersie, A., Application of the LQ model to the interpretation of absorbed dose distribution in the daily practice of radiotherapy, 180

Schultz, G., see Glanzmann, Ch., 12

Senan, S., Rampling, R. and Kaye, S. B., Malignant pineal teratomas: a report on three patients and the case for craniospinal irradiation following chemotherapy, 209

Shubinski, R. E., see Bachaud, J. M., 104

Shun Wong, C., Cummings, B. J., Keane, T. J., O'Sullivan, B. and Catton, C. N., Results of external beam irradiation for rectal carcinomas locally recurrent after local excision or electrocoagulation, 145

Skladowski, K., see Maciejewski, B., 7

Sminia, P., Haveman, J. and Koedooder, C., Effects of hyperthermia applied to previously irradiated cervical spinal cord in the rat, 60

Snijders-Keilholz, A. and Trimbos, J. B., A preliminary report on new efforts to decrease radiotherapy related small bowel toxicity (Short Communication), 206

Swiatnicka, J., see Maciejewski, B., 7

Taylor, J. M. G., Mendenhall, W. M. and Lavey, R. S., Time-dose factors in positive neck nodes treated with irradiation only, 167

Ten Haken, R. K., Lawrence, T. S., McShan, D. L., Tesser, R. J., Fraass, B. A. and Lichter, A. S., Technical considerations in the use of 3-D beam arrangements in the abdomen, 19

Tesser, R. J., see Ten Haken, R. K., 19

Thames, H. D., see Bentzen, S. M., 161

Thomas, J., see Robinson, M., 118

Toghill, P. J., see Bessell, E. M., 190

Tomas, C., see Sarri, Y., 143

Trimbos, J. B., see Snijders-Keilholz, A., 206

Trott, K. R. and Kummermehr, J., Rapid Repopulation in Radiotherapy: Accelerated repopulation in tumours and normal tissues, 159

Trott, K. R., see Maciejewski, B., 7

Valdagni, R. and Italia, C., Early breast cancer irradiation after conservative surgery: quality control by portal localization films, 311 Valdagni, R., see Ciocca, M., 304

Van Battum, L. J., see Van Bree, N. A. M., 252

Van Battum, L. J., see Mijnheer, B. J., 239

Van Bree, N. A. M., Van Battum, L. J., Huizenga, H. and Mijnheer, B. J., Three-dimensional dose distribution of tangential breast treatment: a national dosimetry intercomparison, 252

Van Bree, N. A. M., see Mijnheeer, B. J., 239

Van Bree, N. A. M., see Van Tienhoven, G., 290

Van Dam, J., see Leunens, G., 285

Van Dijk, J. D. P., see Letschert, J. G. J., 36

Van Heerde, P., see Letschert, J. G. J., 36

Van Tienhoven, G., see Heukelom, S., 269

Van Tienhoven, G., Lanson, J. H., Crabeels, D., Heukelom, S. and Mijnheer, B. J., Accuracy of tangential breast treatment set-up: a portal imaging study, 317

Van Tienhoven, G., van Bree, N. A. M. and Mijnheer, B. J., Quality assurance of the EORTC trial 22881/10882: "assessment of the role of the booster dose in breast conserving therapy": the Dummy Run, 290

Van Tienhoven, G., see Mijnheer, B. J., 239

Van den Bogaert, W., The relation between radiotherapist, surgeon, pathologist and physicist in the treatment of early breast cancer, 219

Van der Schueren, E., see Leunens, G., 285

Van der Schueren, E., see Mitine, C., 308

Venselaar, J. L. M., see Hamers, H. P., 280

Verger, E., see Sarri, Y., 143

Verstraete, J., see Leunens, G., 285

Volcoq, J. R., see Fourquet, A., 261

Wambersie, A., see Scalliet, P., 180

Webb, S., see Mayles, W. P. M., 248

Westbrook, C., Gildersleve, J. and Yarnold, J., Quality assurance in daily treatment procedure: patient movement during tangential fields treatment, 299

Westbury, G., see Robinson, M., 118

Westman, G., see Jahnson, S., 111

Williams, P. C., see Kirby, M. C., 314

Wilson, J. F., see Janjan, N. A., 195

Yabuki, H., see Rockwell, S., 92

Yarnold, J., see Westbrook, C., 299

Yarnold, J. R., see Mayles, W. P. M., 248

Zajusz, A., see Maciejewski, B., 7

Zellmer, D. L., see Janjan, N. A., 195

## SUBJECT INDEX

Abdominal irradiation, complications of, Accelerated fractionation, 133

Accelerated repopulation, 159 Accessories in radiotherapy, 140 Accuracy in dose delivery, 285

Acute lymphatic leukaemia, 56

Advanced cancer, 1 Axillary clearance, 226

Beam's Eye-View display, 19 Beta-cell function, 143

Bilateral testicular cancer, 12

Bladder carcinoma, local control, 111

Bone marrow transplantation, 127

Boost technique, simultaneous, 45

Breast cancer irradiation treatment planning, 239

Breast cancer treatment, 269, 280

Breast carcinoma, curative, 222

Breast conservation, 219, 230

Breast conserving therapy, 245, 290

Breast irradiation, 248, 261, 304

Breast neoplasm, 290

Breathing rate measurement, 68

Carbon fibres, 140

Cervix carcinoma, 201

CHART, 133

Clinical trial, 290

Clofibrate, 99

CNS leukaemia, 56

Collimator rotation, 269

Combined treatment, 219

Computer dosimetry, 180

Consensus management, 1

Conservative management, 222

Controlled clinical trials, 222

Cranial irradiation, 56

Cranio-caudal wedging, 245

Craniospinal irradiation, 209

3-D dose-volume distribution, 29

3-D treatment planning, 19

Dose distribution, 290

Dose homogeneity, 248

Dose distribution homogeneity, 245

Dosimetry intercomparison, 252

Early breast cancer, 311

Endometrial carcinoma, 201

Extranodal non-Hodgkin's lymphoma, 36

Extremity, soft tissue sarcomas, 118

Fractionated radiotherapy, 159 Fractionation, 81, 167

Haemoglobin affinity, 99

Half-beam block, 3-D compensator, 304

Hodgkin's disease, 190, 195

Hodgkin's disease, dose response, 195

Human tumours, 156

Hyperfractionated TBI, 127

Hyperfractionation, 118

Hyperthermia, retreatment, 60

In situ radiosensitization, 99

In vivo dosimetry, 285

Inhomogeneity corrections, 195, 239

Irradiation, 60

Kidney, 81

Lateral decubitis position, 261

Linear accelerator, 29

Linear-quadratic model, 45, 167, 180

Localisation errors, 308

Lung damage, 68, 127

Lung density, 237

Lung corrections, 248

Mailed dosimetry, 280

Malignant pineal teratoma, 209

Metastatic cancer

consensus management, 1

treatment strategies, 1

Mucositis, 7

Neck lymph node, 167

Needle biopsy, 226

Nicotinamide, 81

Non-complanar beams, 19

Normalized total dose, 45

Normobaric carbogen, 81

Normobaric oxygen, 81

Oral tongue cancer, combined therapy, 174 Oral tongue cancer, local control, 174

Orbital non-Hodgkin's lymphoma, 36 Oropharyngeal cancer, 45

Palliative cancer, 1

Pancreatic islets, 143

Parotid function, 133

Patient dosimetry, 304 Pelvic radiotherapy, 206 Peptic ulcer, radiation, 12 Perfluorochemical emulsions, 92 Perfluorooctylbromide, 92 Photon beams, 252 Polyglycolic acid mesh sling, 206 Portal films, 308 Portal imaging, 314, 317 Portal localization film, 311 Potential doubling time, 156

Predictive assays, 201

Prognostic factors, 230

Proliferation, 156 Prostatic cancer, 45

Quality assurance, 222, 252, 280, 290, 299, 308, 311

Quality control, 304, 314

Radiation and peptic ulcer, 12

Radiation complications, 111

Radiation enteritis, 206

Radiation-induced cancer, 12 Radiation-induced eye complications, 36

Radiation injury prevention, 206

Radiation therapy, local recurrence, 145

Radiation therapy, 104, 143

Radiation treatment results, 167

Radical cancer, 1

Radical irradiation, 111

Radio-surgical combination therapy, 104

Radiosensitivity, 201

Radiosensitizer, 81

Radiotherapy equipment, 285

Rectal cancer, 145

Relative normalized total dose distri-

bution, 45

Repopulation, 7, 156

Sarcomas, 118

Semi-automated system, 68

Seminoma, irradiation in, 12

Silicon detector, 304

Skin, 81

Small intestine injury, 206

Solid tumors, radiotherapy of, 92

Spinal cord, 60

Split-course radiotherapy, 174

Stereotactic radiotherapy, 29

Suprahyoid presentation, 190

Tangential breast irradiation, 252, 290, 311
Tangential breast irradiation, treatment set-up, 317
Tangential breast treatment in vivo dosimetry, 269 treatment planning, 269

Three-dimensional dose distribution, 239
Time to recurrence, 174
Tissue compensators, 248
Tissue inhomogeneity, 237
Treatment planning, 269
Treatment planning system, 237

Treatment strategies, 1 Tumour, 81, 99 Tumour clonogen, 161 Tumour oxygenation, 92

Uterine cervix carcinoma, 104

Improvement of the method used at Créteil for early breast cancer: 1970-1990	
G. Marinello, E. Calitchi, J. P. Le Bourgeois and B. Pierquin (France)	266
In vivo dosimetry during tangential breast treatment	
S. Heukelom, J. H. Lanson, G. van Tienhoven and B. J. Mijnheer (The Netherlands)	269
Entrance and exit TL-dosimetry in the conservative treatment of breast cancer: a pilot study for the EORTC-Radiotherapy Cooperative Group	
H. P. Hamers, KA. Johansson, J. L. M. Venselaar, P. de Brouwer, U. Hansson and C. Moudi (The Netherlands, Sweden)	280
In vivo dosimetry for tangential breast irradiation: role of the equipment in the accuracy of dose delivery G. Leunens, J. Verstraete, J. van Dam, A. Dutreix and E. van der Schueren (Belgium)	285
Quality assurance of the EORTC trial 22881/10882: "assessment of the role of the booster dose in breast conserving	
therapy": the Dummy Run G. van Tienhoven, N. A. M. van Bree, B. J. Mijnheer and H. Bartelink (The Netherlands)	290
Quality assurance in daily treatment procedure: patient movement during tangential fields treatment	
C. Westbrook, J. Gildersleve and J. Yarnold (U.K.)	299
Quality control in the conservative treatment of breast cancer: patient dosimetry using silicon detectors M. Ciocca, L. Landoni, C. Italia, P. Montanaro, P. Canesi and R. Valdagni (Italy)	304
Tangential breast irradiation: influence of technique of set-up on transfer errors and reproducibility C. Mitine, A. Dutreix and E. van der Schueren (Belgium)	308
Early breast cancer irradiation after conservative surgery: quality control by portal localization films R. Valdagni and C. Italia (Italy)	311
Portal imaging for the verification of breast treatments	
M. C. Kirby and P. C. Williams (U.K.)	314
Accuracy of tangential breast treatment set-up: a portal imaging study	
G. van Tienhoven, J. H. Lanson, D. Crabeels, S. Heukelom and B. J. Mijnheer (The Netherlands)	317
Report on a Consensus Meeting of the EORTC Radiotherapy and Breast Cancer Cooperative Groups and the EUSOMA (European Society of Mastology)	
H. Bartelink, G. Garavaglia, KA. Johansson, B. J. Mijnheer, W. Van den Bogaert, G. van Tienhoven and J. Yarnold	323
Announcements	327
Contents of Volume 22	329
Author Index	333
Subject Index	336